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# **Solid Waste and Septage Rate Study for the Island County Solid Waste Program: 2015 Analysis**



## ***FINAL Report***

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## Chapter 1 – Summary, Findings, and Rate Options

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This document presents a study of solid waste program rates conducted for the Island County Public Works Department. The objective of the study is to develop recommended solid waste and septage disposal rates for the period 2016 through December 31, 2018. The study provides information supporting decision-making about new rates.

### 1.1 Methodology

The analysis incorporates four key components. Each component is closely tied to the next, with key results “carrying over” and used in the next set of computations to derive the resulting rate recommendations. The computations (and model) are broken into four components:

- service demand module;
- revenue requirements study;
- cost allocation study and
- rate design module.

The service demand module projects the tons of municipal solid waste (MSW), recycling, yard waste, customers of moderate risk waste (MRW), and gallons of septage that the County will need to provide in each year. The revenue requirements study compares projected revenues and expenses to determine the overall adequacy of existing rates. The cost allocation study classifies the revenue requirements into program services and calculates unit costs for each service. The rate design component balances projected program costs with other rate design considerations to develop a rate structure and recommended rate levels for the 3-year period 2016-2018.

The major source of information for this study was the County’s 2016 budget, detailing expected revenues and expenditures for calendar year 2016, and the expected CIP elements for the period 2016, 2017, and 2018. Other key inputs were the 2007-09, 2010-2012, and 2013-15 rate studies,<sup>1</sup> the 2008-2015 budgets (and “actuals”), and detailed interviews with Island County Staff. The work updated the last detailed rate study from 2012 with new inputs and assumptions.

The major tool used for the computations was the rate model developed by SERA originally in 2007 (with later updates), but revamped and simplified as part of this 2015 rate process. The key features of the model include:

- The demand module allows users to select from among a number of growth factors, based on the waste stream.
- All revenue and expense entries in the model were linked directly to the budget. The revenue requirement sheet is directly linked to the importation of the budget revenues and expenses on a

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<sup>1</sup> Skumatz Economic Research Associates, “Rate Solid Waste and Septage Rate Study for the Island County Solid Waste Program: 2007-2009”, and similar documents covering 2010-2012, and 2013-15 rate periods. The previous rate study was used as a reference for the 2007 analysis, and its reference is: “Rate Study for the Island County Solid Waste Program”, Prepared by Paul S. Running and Associates, Seattle Washington, August 2003.

distinct sheet, imported in the form prepared by the County. This simplifies update of the model going forward.

- The revenue requirement and cost allocation sheets were merged to make more transparent the assignment of budget line items to individual rate allocation elements. The user may select from a number of clearly specified and pre-defined allocation options, or may define others through the use of look-up tables.
- The model documents assumptions used throughout the analyses.

We reviewed operations, plans, and the elements of the 2016 budget, and worked with staff to develop projections of the demand, revenues, and expenses for the 2016-2018 period based on the 2016 budgets, previous performance, planning documents, and expectations into the future. In addition to the direct analysis of the 2016-2018 rate period, we also conducted a detailed analysis of the patterns in demand, expenses, and revenue recovery over the previous three-year period to understand the influence the previous period's performance would have on the next rate period. The results of the work are described in the remainder of the report.

## ***1.2 Findings for 2016-18***

### **Analysis and Results for Solid Waste Operations:**

The most substantial findings and conclusions related to Island County's solid waste system for the 2016-18 period are detailed in Chapter 4. An abbreviated version follows in this summary.

- **Tonnages have increased more than trend**, so going forward in the 2016-18 rate study, we opt for a moderate growth rate leveraged off the average of the tonnage totals from 2014 and 2015. Using 2015 as the base runs the risk of over-projecting tonnage increases.
- **Rates over-recovered the last few years:** Because of unanticipated tonnage increases, lower expenses, and other causes, revenues have tracked about 5-13% over budget for the last period. The rate for solid waste was \$115 per ton; however, the "effective" revenues per ton recovered for solid waste services was approximately \$126-127 per ton. Beyond these other causes, the existence of a minimum charge for service is likely also a contributor to the over-recovery.
- **Allocation changes have been implemented to better match reality:** We have updated allocations and unit cost computations to better recognize that neither MRW nor recycling have been set based on costs (the former is a "set" fee, and the latter are not charged a fee). In this rate study, the allocated costs for the total of MSW, recycling, and MRW are all divided by MSW tons to determine the MSW rate going forward. Thus, the allocation has the cost for all these services covered through the MSW fees, which more closely matches actual operations. This simplifies allocations and provides a more transparent and direct computation of the rates needed to recover revenues for solid waste operations.<sup>2</sup>

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<sup>2</sup> The small amount of revenue that derives from the MRW will serve as contingency funds.

- **Updates to reflect 2016-18 CIP elements and capabilities to have charge customers:** The County is introducing the capability for solid waste customers to use charge cards; this will be treated as a pass-through costs, and these customers will be charged 3% more than the posted rates, which will represent fees for those paying cash.

#### **Analysis and Results for Septage Operations:**

The most substantial changes that have occurred in Island County's solid waste system since the 2012 rate study are summarized below.

- **Significant increase in septage gallons:** Due to changes in state policies encouraging septage checking, septage gallons increased by about 20-30% over budget and rate projections in the last period. Discussions with the County indicate this higher trend is expected to continue, so the projections include modest increases from this higher baseline.
- **Need for a very large capital investment:** The existing facility needs an investment of \$2.7 million for upgrades and additional storage capacity. The facility is anticipated to be financed as follows: \$700K drawn from solid waste fund cash balances, and \$2 million borrowed from the County's Roads Division. By law, interfund borrowing can be spread over a maximum of 5 years, which is the assumption used here.

#### **Rate Computation Results and Options:**

The total revenue requirements for 2016-2018 for solid waste are listed below.

- MSW operations: \$15,308 thousand, or 87% of MSW cost allocations
- Landfill post closure operations: \$595 thousand, or 3% of allocated costs in solid waste
- Recycling operations: \$1,064 thousand, or 6% of allocated costs in solid waste
- MRW operations: \$729 thousand, or 4% of allocated solid waste costs.
- Total revenue requirements for solid waste operations: \$17,607 thousand

The total number of solid waste tons expected over the three year rate period are 138,300 tons, yielding a calculated rate per ton needed of \$127.30 to recover needed revenues based on the tons of service provided. Using a basic calculation, and with some variations in assumptions, this represents a 7-11% increase over current posted rates.

However, there are other considerations to take into account in identifying appropriate rates. As mentioned earlier, current actual rate revenues are pulling in an effective rate of \$126-127 per ton for solid waste. Were this to continue, a rate increase of less than 1% would be needed. Assuming an increase in tons projected for each of the coming years, the County may, in fact, be able to defer a rate increase for solid waste through this rate period.

The septage rates are more complicated. The revenue requirements can vary based on several policy alternatives. Note that the estimated gallons over the three year rate period are projected to be 10,091.<sup>3</sup>

- **Option 1 – Short loan payback, large rate increase:** Assuming the \$2 million interfund loan is paid back over 5 years with 0.5% interest rate, and the \$700K is paid back / replenished into the solid waste fund within the 3 year period, revenue requirement for septage are: \$2.132 million. Divided by the estimated gallons, the septage rate would be \$0.2212, or a 43% increase over current rates (\$0.155/gal).
- **Option 2 – Longer loan payback, substantial rate increase:** Again, the \$2 million interfund loan is paid back over 5 years, but we also replenish the \$700K expense over 5 years, the revenue requirement over the 3-year rate period is: \$1.852 million. Divided by the estimated gallons, the septage rate would be \$0.1835, or an 18% increase over current rates.

Rate increases of this level may be unpalatable, and may potentially be avoidable under different assumptions.

- **Option 3 – Defer rate increase with 5-year interfund repayment, and delayed solid waste fund replenishment:** Again, the \$2 million interfund loan is paid back over 5 years, but we replenish the \$700K starting after the \$2 million is repaid (the fund has a substantial remaining balance). Under this option, the 3 year revenue requirements for 2016-2018 are: \$1.432 million. Divided by the estimated gallons, the septage rate would be \$0.1419, or no rate increase would be needed.
- **Option 4 – Defer rate increase with bonds:** Consider that the lifetime of the asset (the upgraded septage plant) is more than 20 years. The County could finance the \$2.7 million (or a portion of it) over a much longer period by bonding for the expense. If we assume an interest rate of 3.3% for good quality 20 year bonds, the annual payments for the County's \$2 million investment is \$138 thousand. Making optimistic assumptions (including not replenishing \$700K until after the 3 year rate period), the revenue requirements for Island County's septage 3 year rate period 2016-2018 would be reduced by \$823.4 thousand over the 3 year period, leaving revenue requirements of \$609 thousand. At 15 and 20 years repayment, the septage revenue requirements would be, respectively, \$708K and \$908K.<sup>4</sup> Divided by the estimated gallons, no septage rate increase would be needed. This may or may not be possible, or desirable.
- **Option 5 – Defer septage rate increase by recognizing recovery across entire Solid Waste fund:** One additional option may be considered. Overall, septage fees represent about 10% of the combined solid waste and septage revenue requirements for Island County's solid waste and septage system. Although typically the system has recovered costs from these septage services (solid waste vs. septage), technically, the system must recover rates across all services.

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<sup>3</sup> These are "revenue" gallons. The total estimated gallons are 11,038, but while the largest share of the gallons are at higher rates (the residential pumper septage fees), there are additional gallons at discounted rate for Town of Coupeville, Class B, and large institutional rates. The 10,091 gallons represent a weighted average of revenue from the gallons.

<sup>4</sup> At a 4.3% interest rate, the 3 year rate period savings would be \$785K, 687K, and 487K for 20, 15, and 10 year loans.

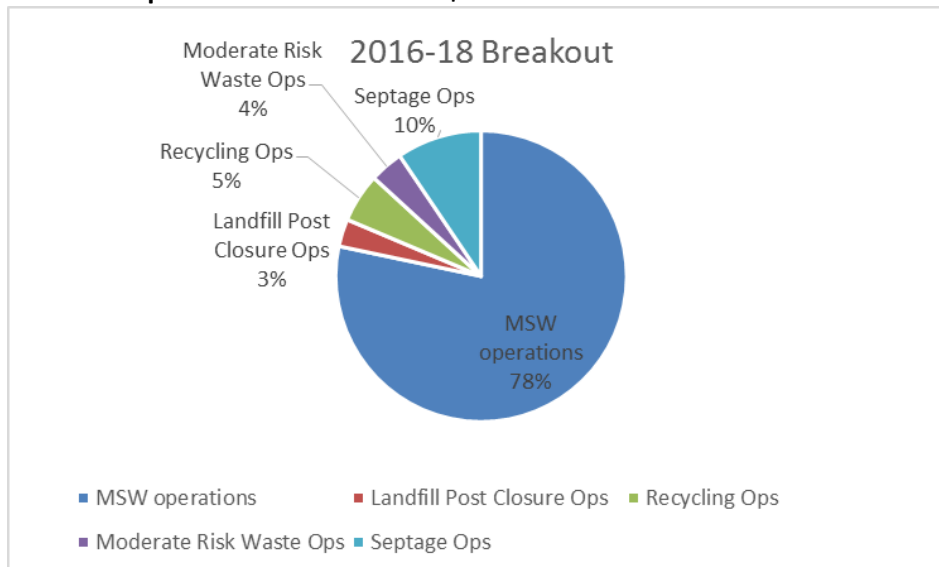
- If Option 2 is considered, the revenue requirements from septage services are \$1.852 million for the 3 year rate period, respectively. The revenue requirements for solid waste are \$17.6 million for the 3 year period. If we charge current rates (\$0.155) for the 10,091, we recover \$1.564 million. The remainder of revenue requirements in total are then \$17.6 million plus \$288K. Divided by solid waste tons of 138,300 tons, the tonnage rate would be \$129.30, or about 2% higher than the revenues per ton currently being recovered. The requirements would be less under different options (3 or 4).
- **Option 6 – Defer the rate decision and monitor 2016 situation:** Finally, the County can consider Option 6. The County can defer rate changes for a year, and revisit the issue next year, or it can plan multi-part rate increases over two or three years.

Of course, we recommend the County begin setting aside funds for the next replacement of the septage plant as a policy in the next rate period to avoid rate shock in the future and that dedicated funds be pre-accumulated to address future replacements needed in solid waste as well. However, reviewing the CIP, we note that staff have not identified any major upgrade or replacement investments needed through at least 2021.

The remainder of the report presents the various tables and financial figures assuming Option 2. However, the model allows ready modification for the other options.

Figure 1.1 shows the distribution of revenue requirements for the main services offered by the County. Figure 1.2 shows the current rates and the rates under the various options listed above.

**Figure 1.1: Revenue Requirements for Major County Solid Waste and Septage Elements. Total 3 year revenue requirements for 2016-18= \$19.46 million**



### 1.3 Recommended Solid Waste Program Rates

The recommended solid waste program rates reflect the cost of service as well as other rate design considerations including administrative simplicity, consistency with local policies and plans and ability to pay. The computed solid waste and septage rates are compared with current rates in Figure 1.2. Based on the traditional criteria we have applied in Island County, the consultants would recommend Options 2 or 3. However, given the uncertainties because of the recent increase in tonnages and gallons, and the significant investment, taking a “wait and see” option for a year, to watch for over / under-recoveries and the direction of demand tonnages and gallons, could also make sense, to minimize disruption. This would be represented by the rates in Option 6.

**Figure 1.2: Comparison of Existing and Proposed Solid Waste Fees including Policy Options**

Current and Computed Rates	Current (since 2010)	SW constant, Septage					Septage
		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6, Defer
Solid Waste Rates							
First Can or bundle, \$	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Add'l cans or bundles, each \$	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
Minimum total	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
MSW, \$/ton	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00
Compacted Franchised Rates (preferred)	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Base fee per customer	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50
Segregated yard debris, \$/ton	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00
Segregated recyclable material	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MODERATE RISK / SPECIAL WASTES							
Household hazardous waste	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Used motor oil	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CDL	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00
Hard to handle waste, \$/ton	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00
Appliances, \$/each	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50
Tires, \$/each	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50
Asbestos waste, \$/ton (\$20 min)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Shredding+MRW if not recyclable (per bag)	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
SEPTAGE RATES							
Residential (Pumper trucks)	\$0.1550	\$0.2217	\$0.1829	\$0.1550	\$0.1550	\$0.1550	\$0.1550
Town of Coupeville	\$0.0900	\$0.1287	\$0.1062	\$0.0900	\$0.0900	\$0.0900	\$0.0900
Class B (with lab tests)	\$0.0750	\$0.1073	\$0.0885	\$0.0750	\$0.0750	\$0.0750	\$0.0750
Large Institutions / Non-Class B	\$0.1200	\$0.1716	\$0.1416	\$0.1200	\$0.1200	\$0.1200	\$0.1200

Figure Note: charge customers pay 3% more.

## Chapter 2 - Demand and Revenue Requirements

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This section develops projections of revenues and expenses for a 3-year rate period beginning in 2016.<sup>5</sup> Projected revenues at current rates are compared with projected expenses to assess the adequacy of existing rate revenues.

### 2.1 Basis for Projections

The projections used in the Rate Study were based on historical data, actual 2015 (part year) data, and budgeted 2016 solid waste program revenues and expenses.

**Tonnage Projections:** The tonnage forecasts were computed using escalators related to underlying tonnage and septage drivers (population and economic projections), leveraging off the average of the increased tonnages that were realized in 2014 and 2015. The resulting total “Units” of service (tons and gallons), for each year of the rate period, as well as the total for the 3-year rate period, are shown in Figure 2.1. Overall MSW was projected to increase about 1.5% in the 2016-18 period.

**Figure 2.1: Tonnage Forecasts for the Revenue Requirements Projections**

Total Tons by Stream	2015	2016	2017	2018	Total 2016-18
MSW	46,896	47,599	48,313	49,038	144,951
Yard Waste	1,017	996	976	956	2,928
Recycling	2,587	2,534	2,483	2,433	7,450
Constr&Demo	3,035	2,974	2,914	2,855	8,742
HHW	3,080	3,008	2,937	2,869	8,814
Septage (gal)	3,571,131	3,624,698	3,679,069	3,734,255	11,038,021

**Expense Projections:** All expenses pivot from the County’s adopted 2016 budget figures, with subsequent years escalated using projections regarding inflation. The tonnage / gallons projections from Figure 2.1 were linked to their relevant contractual and expense items (tip fees, etc.) and incorporated into the expense figures for each year. The figure used for the growth rates was assumed to be an annual 1.5%. For ease of comparison (this year and into future years), each element was specifically linked back to the budget and fund code used in Island County’s budgeting system.

**Revenue Projections:** Base rate revenues were projected to increase with the number of relevant “units” – either tons, gallons, or customers. Non-rate revenue values were gathered from the 2016 budget. Discussion with staff were used to tailor these projections for later years (for example, we discussed grant years and phase outs). Needed percentage rate increases (by rate category) were based on the differences between the base revenues and expense projections for the three-year period.

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<sup>5</sup> The study corresponds to the budget period from January 1, 2016 to December 31, 2018.

## **2.2 Method of Expressing Costs**

The projected revenues and expenses are expressed on a cash basis rather than an accrual basis. A cash basis is used because the solid waste program is publicly owned and operated on a non-profit basis under the control of the Board of Island County Commissioners. The Board's financial controls are administered through an annual operating budget. The revenue required to operate the program is equal to the amount of money required to make cash outlays in a timely manner as they become due.

The revenue requirements for the rate study are summarized as the sum of:

+	Excess Working Capital
+	Operating Revenues at Current Rates
-	Operation and Maintenance Expense
-	Taxes and Operating Assessments
-	Debt Service
-	<u>Repair and Replacement of Existing Facilities and Equipment</u>
Σ	Revenue Requirements

## **2.3 Excess Working Capital**

The solid waste fund aggregates revenues and expenses for both the solid waste and septage programs. No excess working capital was incorporated into the base rate computations.

## **2.4 Sources of Funds**

Sources of funds for the solid waste program include rate revenues from the municipal solid waste, moderate-risk waste, and septage operating programs together with investment income, miscellaneous income and grants. The projected sources of funds for the 3-year rate period are compared with actual 2015 and budgeted 2016 sources of funds in Figure 2.2.

**Figure 2.2: Sources of Funds at Current Rates (Dollars)<sup>6</sup>**

	2015	2016	2017	2018	Total 2016-18
Use Of Beginning Fund Balance (GEN FISCAL)	\$0	-\$1,605,430	\$0	\$0	-\$1,605,430
REVENUES - Solid Waste and non-septage services					
Sg Wa Dept Ecology (CPG Grant-MRW 07/13-6/15)	-\$140,114	-\$89,000	-\$89,890	-\$90,789	-\$269,679
Intgvt Svc Environ Conserv (NASWI)	-\$12,000	-\$15,000	-\$15,000	-\$15,000	-\$45,000
Fee Water Sales (Fireflow)	-\$800	-\$800	-\$800	-\$800	-\$2,400
Fee Garbage / Solid Waste	-\$5,545,880	-\$5,747,000	-\$5,747,000	-\$5,747,000	-\$17,241,000
RECYCLE - Fee Garbage / Solid Waste	-\$30,000	-\$30,000	-\$30,000	-\$30,000	-\$90,000
HHW / SQG - Fee Garbage / Solid Waste	-\$2,000	-\$2,000	-\$2,000	-\$2,000	-\$6,000
REVENUES - Septage					
Fee Sewer Service	-\$425,000	-\$450,000	-\$450,000	-\$450,000	-\$1,350,000
REVENUES - Other					
Misc Investment Interest (FIN STMT-GASB)	-\$4,000	-\$3,500	-\$3,500	-\$3,500	-\$10,500
Misc Cash Over / Short	-\$300	-\$300	-\$300	-\$300	-\$900
Misc Other / Bad Debt + NSF	\$2,500	\$2,500	\$2,500	\$2,500	\$7,500
Misc Other + Shredding + WWF	-\$1,500	-\$1,500	-\$1,500	-\$1,500	-\$4,500
Total Revenue	-\$6,176,559	-\$7,942,030	-\$6,337,490	-\$6,338,389	-\$20,617,909

## 2.5 Operation and Maintenance Expense

Operation and maintenance expense includes labor, payroll taxes and personal benefits, maintenance of facilities and equipment, transportation and disposal of waste materials, and other associated expenses such as supplies, insurance and County overhead costs. A summary of the projected operation and maintenance expense for the 3-year rate period is presented in Figure 2.3; they include tipping fee and hauling costs for the projected tons.

<sup>6</sup> Asterisk denotes that the revenues are based on existing rate levels with figures computed from the budget.

**Figure 2.3: Summary of Projected Operation and Maintenance Expense (Dollars)**

	<b>O&amp;M TOTALS</b>	<b>2015</b>	<b>2016 Budget</b>	<b>2017</b>	<b>2018</b>	<b>Total 2016-18</b>
Septage	Salaries	\$55,623	\$52,970	\$53,500	\$54,035	\$160,504
Septage	Overtime	\$1,800	\$1,800	\$1,818	\$1,836	\$5,454
Septage	Payroll Taxes	\$6,316	\$4,201	\$4,243	\$4,285	\$12,729
Septage	Retirement	\$7,604	\$6,073	\$6,134	\$6,195	\$18,402
Septage	Medical / Dental / Life / Fbp	\$6,479	\$13,967	\$14,107	\$14,248	\$42,321
Septage	Li / Unemp / Other Benefits	\$4,745	\$3,485	\$3,520	\$3,555	\$10,560
Septage	Supplies Operating	\$5,000	\$5,000	\$5,050	\$5,101	\$15,151
Septage	Fuel Vehicles	\$350	\$350	\$354	\$357	\$1,061
Septage	Small Equip Tools	\$3,000	\$1,500	\$1,515	\$1,530	\$4,545
Septage	Services Operating	\$80,000	\$40,000	\$40,400	\$40,804	\$121,204
Septage	Communication Telephone	\$800	\$1,000	\$1,010	\$1,020	\$3,030
Septage	Rent Operating	\$1,500	\$1,200	\$1,212	\$1,224	\$3,636
Septage	Utilities Electricity	\$35,000	\$35,000	\$35,350	\$35,704	\$106,054
Septage	Filing Fees And Permits	\$0	\$2,500	\$2,525	\$2,550	\$7,575
Septage	Training Registrations	\$0	\$1,200	\$1,212	\$1,224	\$3,636
Septage	Dues & Memberships	\$200	\$200	\$202	\$204	\$606
Septage	Other	\$300	\$300	\$303	\$306	\$909
Landfill Post	Services Operating	\$150,000	\$160,000	\$161,600	\$163,216	\$484,816
Landfill Post	Filing Fees And Permits	\$0	\$1,000	\$1,010	\$1,020	\$3,030
Recycling	Salaries	\$135,085	\$180,407	\$182,211	\$184,033	\$546,651
Recycling	Overtime	\$7,200	\$7,200	\$7,272	\$7,345	\$21,817
Recycling	Payroll Taxes	\$18,137	\$14,398	\$14,542	\$14,687	\$43,627
Recycling	Retirement	\$21,835	\$20,942	\$21,151	\$21,363	\$63,456
Recycling	Medical / Dental / Life / Fbp	\$41,223	\$49,896	\$50,395	\$50,899	\$151,190
Recycling	Li / Unemp / Other Benefits	\$13,624	\$13,285	\$13,418	\$13,552	\$40,255
Recycling	Supplies Operating	\$4,000	\$4,000	\$4,040	\$4,080	\$12,120
Recycling	Fuel Vehicles	\$750	\$1,000	\$1,010	\$1,020	\$3,030
Recycling	Small Equip Tools	\$1,500	\$1,000	\$1,010	\$1,020	\$3,030
Recycling	Services Operating	\$300,000	\$300,000	\$303,000	\$306,030	\$909,030
Recycling	Communication Telephone	\$300	\$300	\$303	\$306	\$909
Recycling	Travel Transportation	\$100	\$100	\$101	\$102	\$303
Recycling	Advertising Legal Notices	\$1,000	\$1,000	\$1,010	\$1,020	\$3,030
Recycling	Advertising Other	\$2,000	\$2,000	\$2,020	\$2,040	\$6,060
Recycling	Rent Operating	\$1,000	\$1,000	\$1,010	\$1,020	\$3,030
Recycling	Utilities Electricity	\$2,500	\$3,000	\$3,030	\$3,060	\$9,090
Recycling	Repair Equipment	\$500	\$1,500	\$1,515	\$1,530	\$4,545
Recycling	Dues & Memberships	\$400	\$500	\$505	\$510	\$1,515
Recycling	Subscriptions	\$200	\$100	\$101	\$102	\$303
Recycling	Filing Fees And Permits	\$1,500	\$1,500	\$1,515	\$1,530	\$4,545
Recycling	Other	\$750	\$750	\$758	\$765	\$2,273

**Figure 2.3: Summary of Projected Operation and Maintenance Expense (Dollars), continued**

	O&M TOTALS, Continued	2015	2016 Budget	2017	2018	Total 2016-18
Solid Waste Ops	Salaries	\$757,412	\$723,428	\$730,662	\$737,969	\$2,192,059
Solid Waste Ops	Overtime	\$27,001	\$27,000	\$27,270	\$27,543	\$81,813
Solid Waste Ops	Termination / Payout	\$10,350	\$0	\$0	\$0	\$0
Solid Waste Ops	Payroll Taxes	\$63,015	\$57,351	\$57,925	\$58,504	\$173,779
Solid Waste Ops	Retirement	\$73,845	\$80,480	\$81,285	\$82,098	\$243,862
Solid Waste Ops	Medical / Dental / Life / Fbp	\$211,398	\$219,165	\$221,357	\$223,570	\$664,092
Solid Waste Ops	Li / Unemp / Other Benefits	\$56,576	\$43,898	\$44,337	\$44,780	\$133,015
Solid Waste Ops	Supplies Office	\$2,500	\$2,500	\$2,525	\$2,550	\$7,575
Solid Waste Ops	Supplies Operating	\$35,000	\$35,000	\$35,350	\$35,704	\$106,054
Solid Waste Ops	Fuel Vehicles	\$5,000	\$5,000	\$5,050	\$5,101	\$15,151
Solid Waste Ops	Fuel Bldgs	\$2,000	\$1,500	\$1,515	\$1,530	\$4,545
Solid Waste Ops	Fuel Equip	\$23,000	\$23,000	\$23,230	\$23,462	\$69,692
Solid Waste Ops	Small Equip Office	\$12,000	\$5,000	\$5,050	\$5,101	\$15,151
Solid Waste Ops	Small Equip Tools	\$2,500	\$2,500	\$2,525	\$2,550	\$7,575
Solid Waste Ops	Small Equip Furniture	\$2,500	\$2,500	\$2,525	\$2,550	\$7,575
Solid Waste Ops	Services Professional	\$2,561,400	\$2,638,000	\$2,664,380	\$2,691,024	\$7,993,404
Solid Waste Ops	Services Operating	\$20,000	\$25,000	\$25,250	\$25,503	\$75,753
Solid Waste Ops	Communication Postage	\$750	\$750	\$758	\$765	\$2,273
Solid Waste Ops	Communication Telephone	\$15,000	\$13,000	\$13,130	\$13,261	\$39,391
Solid Waste Ops	Communication Internet	\$2,500	\$5,000	\$5,050	\$5,101	\$15,151
Solid Waste Ops	Travel Transportation - Fuel	\$2,200	\$3,000	\$3,030	\$3,060	\$9,090
Solid Waste Ops	Travel Meals	\$200	\$200	\$202	\$204	\$606
Solid Waste Ops	Travel Lodging	\$1,500	\$1,500	\$1,515	\$1,530	\$4,545
Solid Waste Ops	Advertising Legal Notices	\$750	\$750	\$758	\$765	\$2,273
Solid Waste Ops	Rent Operating	\$3,000	\$1,500	\$1,515	\$1,530	\$4,545
Solid Waste Ops	Utilities Electricity	\$21,500	\$21,500	\$21,715	\$21,932	\$65,147
Solid Waste Ops	Repair Equipment	\$30,000	\$30,000	\$30,300	\$30,603	\$90,903
Solid Waste Ops	Maintenance Annual Equip	\$1,000	\$5,000	\$5,050	\$5,101	\$15,151
Solid Waste Ops	Repair / Maint Facilities	\$800	\$1,000	\$1,010	\$1,020	\$3,030
Solid Waste Ops	Filing Fees And Permits	\$1,500	\$1,000	\$1,010	\$1,020	\$3,030
Solid Waste Ops	Training Registrations	\$3,500	\$3,000	\$3,030	\$3,060	\$9,090
Solid Waste Ops	Other	\$2,000	\$2,000	\$2,020	\$2,040	\$6,060
Hazardous Waste	Salaries	\$82,125	\$86,740	\$87,607	\$88,483	\$262,831
Hazardous Waste	Payroll Taxes	\$10,322	\$6,635	\$6,701	\$6,768	\$20,105
Hazardous Waste	Retirement	\$11,223	\$9,699	\$9,796	\$9,894	\$29,389
Hazardous Waste	Medical / Dental / Life / Fbp	\$11,564	\$13,266	\$13,399	\$13,533	\$40,197
Hazardous Waste	Li / Unemp / Other Benefits	\$6,634	\$4,569	\$4,615	\$4,661	\$13,845
Hazardous Waste	Supplies Office	\$250	\$200	\$202	\$204	\$606
Hazardous Waste	Supplies Operating	\$15,000	\$15,000	\$15,150	\$15,302	\$45,452
Hazardous Waste	Fuel Vehicles	\$400	\$400	\$404	\$408	\$1,212
Hazardous Waste	Small Equip Tools	\$1,000	\$1,000	\$1,010	\$1,020	\$3,030
Hazardous Waste	Services Professional	\$100	\$100	\$101	\$102	\$303
Hazardous Waste	Services Operating	\$50,000	\$45,000	\$45,450	\$45,905	\$136,355
Hazardous Waste	Travel Transportation	\$150	\$150	\$152	\$153	\$455
Hazardous Waste	Advertising Legal Notices	\$150	\$150	\$152	\$153	\$455
Hazardous Waste	Rent Other	\$100	\$100	\$101	\$102	\$303
Hazardous Waste	Utilities Electricity	\$1,000	\$1,000	\$1,010	\$1,020	\$3,030
Hazardous Waste	Repair Equipment	\$1,000	\$1,000	\$1,010	\$1,020	\$3,030
Hazardous Waste	Other	\$1,500	\$1,500	\$1,515	\$1,530	\$4,545
	Total	\$5,058,551	\$5,102,655	\$5,155,699	\$5,207,236	\$15,461,555
General Fiscal	Transfers Out Budget Allocated	\$334,740	\$308,923	\$312,012	\$315,132	\$936,068
General Fiscal	Transfers Out Operating	\$88,083	\$92,000	\$92,920	\$93,849	\$278,769
	Total	\$422,823	\$400,923	\$404,932	\$408,982	\$1,214,837

## 2.6 CIP Expense

The CIP budget includes new and replacement equipment, facility upgrades, and other expenses related to providing MSW, recycling, and other services. In the 2016-2018 period, the most significant elements of the projected CIP expenses for the 3-year rate period are presented in Figure 2.4. The details of each element of the CIP expenses are included in the budget and the rate model.

**Figure 2.4: Summary of Projected Capital Expense (Dollars)**

CIP TOTALS	2015	2016 Budget	2017	2018	Total 2016-18
Capital Land Site Improvements	\$340,000	\$300,000	\$63,000	\$69,000	\$432,000
Capital Machinery And Equipment	\$27,000	\$50,000	\$82,500	\$29,000	\$161,500
Accum of Ending Fund Balance	\$0	\$140,000	\$550,000	\$548,000	\$1,238,000
Total	\$367,000	\$490,000	\$695,500	\$646,000	\$1,831,500

## 2.7 Taxes and Operating Assessments, Debt Service Expenditure, and Intergovernmental Transfers

Solid waste revenues are subject to a Washington State excise tax. The tax rate is 2.13 percent of gross taxable revenues. The Washington State Auditor also assesses fees for financial oversight of the solid waste program. Some solid waste fees are also subject to municipal business and occupation taxes. The projected taxes and operating assessments at current rates through the study period are summarized in Figure 2.6. These taxes were embedded in the budget calculations, so no separate values are included under “taxes”. The total 3-year assessment is, therefore, zero.

**Debt Service:** Historically, the solid waste program services held debt in the form of general obligation bonds issued by Island County for construction of the septage treatment facility. All old debt has been paid off. A significant investment in new plant for septage operations is planned for the period. The new cost will be \$2.7 million dollars, financed in two pieces:

- \$700K in cash from an interfund loan, replenished over 5 years, and
- Financing of the remaining \$2 million, paid back over 5 years at an interest rate of 0.5%.

The results of this debt service schedule are presented in Figure 2.5.

**Figure 2.5: Summary of Projected Debt Service (Dollars)**

	2016	2017	2018	2019	2020	2021	Total payback
Septage; Paying back \$700K	\$140,000	\$140,000	\$140,000	\$140,000	\$140,000	\$0	\$700,000
Septage; Paying back \$2 million	\$0	\$410,000	\$408,000	\$406,000	\$404,000	\$402,000	\$2,030,000
Septage, Total	\$140,000	\$550,000	\$548,000	\$546,000	\$544,000	\$402,000	\$2,730,000
assumed end of year payments		Total 2016-18	\$1,238,000				

**Intergovernmental Expenses:** A number of expenses are incurred through intergovernmental agreements within the County – related to contracts, taxes, and overhead-type items (insurance, etc.). These totals are summarized in Figure 2.6 below.

**Figure 2.6: Summary of Projected Intergovernmental Expenses (Dollars)**

	INTERGOVERNMENTAL	2015	2016 Budget	2017	2018	Total 2016-18
Landfill PostClosure	Interfund Professional	\$6,200	\$7,100	\$7,171	\$7,243	\$21,514
Recycling	Interfund Professional	\$78,000	\$88,602	\$89,488	\$90,383	\$268,473
Septage	Interfund Professional	\$20,000	\$20,250	\$20,453	\$20,657	\$61,360
Septage	Interfund Insurance	\$5,500	\$5,500	\$5,555	\$5,611	\$16,666
Solid Waste Ops	Intergovt Pymt Taxes & Asmt	\$100,500	\$100,500	\$101,505	\$102,520	\$304,525
Solid Waste Ops	Interfund Professional (Health & Safety)	\$72,000	\$73,500	\$74,235	\$74,977	\$222,712
Solid Waste Ops	Interfund Insurance	\$48,000	\$48,000	\$48,480	\$48,965	\$145,445
	Total	\$330,200	\$343,452	\$346,887	\$350,355	\$1,040,694

## 2.8 Repair and Replacement of Existing Facilities and Equipment

With the exception of the septage treatment facility, the solid waste program has financed all capital improvements from rate revenue and grant income.

A reasonable estimate of repair and replacement expenses is the annual depreciation expense. Depreciation expenses for buildings, septage facilities, other improvements and machinery and equipment are presented in Figure 2.7. Repair and replacement expenses are projected at \$1.04 million for the 3-year rate period.

**Figure 2.7: Summary of Projected Repair and Replacement of Existing Facilities and Equipment**

Repair and Replacement Items	2016	2017	2018	Total	Pct
Capital land					
SW Ops	\$225,000	\$25,000	\$30,000	\$ 280,000	65%
LFC	\$75,000			\$ 75,000	17%
MRW		\$20,000		\$ 20,000	5%
Septage		\$18,000		\$ 18,000	4%
Staff			\$39,000	\$ 39,000	9%
TOTAL	\$300,000	\$63,000	\$69,000	\$ 432,000	100%
Veh Repl Items					
Recy	\$15,000			\$ 15,000	9%
SW Ops	\$35,000	\$75,000	\$29,000	\$ 139,000	86%
LFC		\$7,500		\$ 7,500	5%
	\$50,000	\$82,500	\$29,000	\$ 161,500	

## 2.9 Summary of Revenue Requirements

The summary of the revenue requirements is provided in Figure 2.8. This table aggregates the projected annual sources of funds at existing rate levels against the projected annual application of funds for the 3-year rate period. If retained for the next three-year period, current rates in total are projected to fall short in addressing budgeted expenditures.

**Figure 2.8: Summary of Projected Revenue Requirements (Thousands of Dollars)<sup>7</sup>**

	2015	2016	2017	2018	Total 2016-18
CAPITAL - Projected solid waste program working capital	\$0	-\$1,605	\$0	\$0	-\$1,605
REVENUES - SW Operating Revenues at Current Rates	-\$5,752	-\$5,887	-\$5,887	-\$5,888	-\$23,414
CIP - Scheduled CIP improvements in rate period	\$367	\$490	\$696	\$646	\$2,199
O&M - Operations and Maintenance costs	\$5,479	\$5,504	\$5,559	\$5,614	\$22,156
TAXES - Taxes and operating assessments	\$0	\$0	\$0	\$0	\$0
DEBT SERVICE - debt service	\$0	\$0	\$0	\$0	\$0
DEPRECIATION - Repair & replacement of existing facilities	\$0	\$0	\$0	\$0	\$0
INTERGOVERNMENTAL	\$330	\$343	\$347	\$350	\$1,371
REVENUES - Septage	\$0	\$0	\$0	\$0	\$0
TOTAL CALCULATED REVENUE REQUIREMENTS excl Capital (thous)	-\$425	-\$450	-\$714	-\$722	-\$2,311

<sup>7</sup> Working capital differential is incorporated as a negative revenue in the 'revenues' line, following on to the treatment accorded in the 2007 budget.

## Chapter 3 - Cost Allocation

This section allocates the projected costs identified in the revenue requirements study to individual program serviced and calculates unit costs for the 2016-2018 rate period.

### 3.1 Classification and Allocation of Program Costs

For the purposes of this rate study, the solid waste program is divided into 6 components: municipal solid waste operations, landfill post-closure maintenance operations, waste recycling operations, moderate-risk waste operations, septage treatment operations, and general and administrative operations. The services related to the allocation computations are described briefly below, and the standard allocations used are illustrated in Figure 3.1.

**Figure 3.1: Summary of Allocation Percentages and Rationales**

Allocation Code & Rationale	MSW Op	LF Post Clos	Recy Ops	MRW Ops	Sept Ops	Oth/G&A	Rationale
Septage	0%	0%	0%	0%	100%	0%	Fully allocated to group
Landfill Closure	0%	100%	0%	0%	0%	0%	Fully allocated to group
Training	63%	11%	15%	8%	3%	0%	Salary dollars
Recycling	50%	0%	50%	0%	0%	0%	Split solid waste & recy
General Solid Waste	100%	0%	0%	0%	0%	0%	Fully allocated to group
Moderate Risk Waste	0%	0%	0%	100%	0%	0%	Fully allocated to group
Not assigned	0%	0%	0%	0%	0%	0%	Not assigned
Solid Waste Capital	0%	0%	0%	0%	0%	0%	Fully allocated to group
G&A	0%	0%	0%	0%	0%	100%	Fully allocated to group
							Assigned based on
Capital - Land-based	72%	18%	0%	6%	4%	0%	review of specific items
Capita - Vehicle-based	0%	5%	9%	86%	0%	0%	in the list
							Same as above

- Municipal Solid Waste Operations:** Municipal solid waste operations include collection of waste materials at 4 drop-off facilities (Oak Harbor, Coupeville, Bayview and Camano), local transportation to the central transfer station, processing the collected waste into shipping containers and transporting and disposing the materials at a landfill. Municipal solid waste operations also include educational and promotional activities associated with waste reduction and recycling.
- Landfill Post-Closure Maintenance Operations:** Landfill post-closure maintenance activities include surveillance, monitoring, and maintenance of the closed Coupeville landfill.
- Waste Recycling Operations:** The solid waste program operates secondary materials drop-off collection stations at the 4 waste receiving facilities. One additional drop-off collection site is operated in Freeland. Waste recycling operations include the collection, transportation, and processing of secondary materials.
- Moderate Risk Waste Operations:** The solid waste program provides drop-off collection services for household hazardous waste and used motor oil at the 4 solid waste receiving stations. Collected household hazardous waste is transported to the moderate-risk waste processing facility for reuse, recycling or disposal. Small quantities of some commercially

generated moderate-risk waste are also accepted at the moderate-risk waste management facility for recycling or disposal. Promotional and educational activities relating to recommended management practices for small quantities of hazardous waste are also provided to businesses and institutions.

- **Septage Treatment Operations:** Septage treatment operations include receiving, treating, and disposing septic tank pumpings from all on-site wastewater treatment systems maintained on Whidbey Island. Septage treatment operations also include land applications of treatment by-products.
- **General and Administrative Operations:** General and administrative operations are management-related services provided by County departments including Public Works, the Treasurer's Office, Auditor, Central Services, Maintenance, Human Resources, Prosecuting Attorney, General Service and the Board of County Commissioners. The costs of insuring facilities and equipment are also considered a general and administrative expense.

## Allocating Expenses

**Allocation of Operations and maintenance Expenses:** Each of the following expense categories was allocated to the 6 components on the basis of the relevant row and column of the matrix in Figure 3.1, on the basis of budgeted expense shares. Each is annotated in detail in the model.

- Operations and maintenance expenses – to the relevant service
- Taxes and operating expenses – to MSW and septage
- Debt service – to septage, the source of the upcoming debt
- Repair and replacement of existing facilities and equipment – allocated per Figure 2.7.

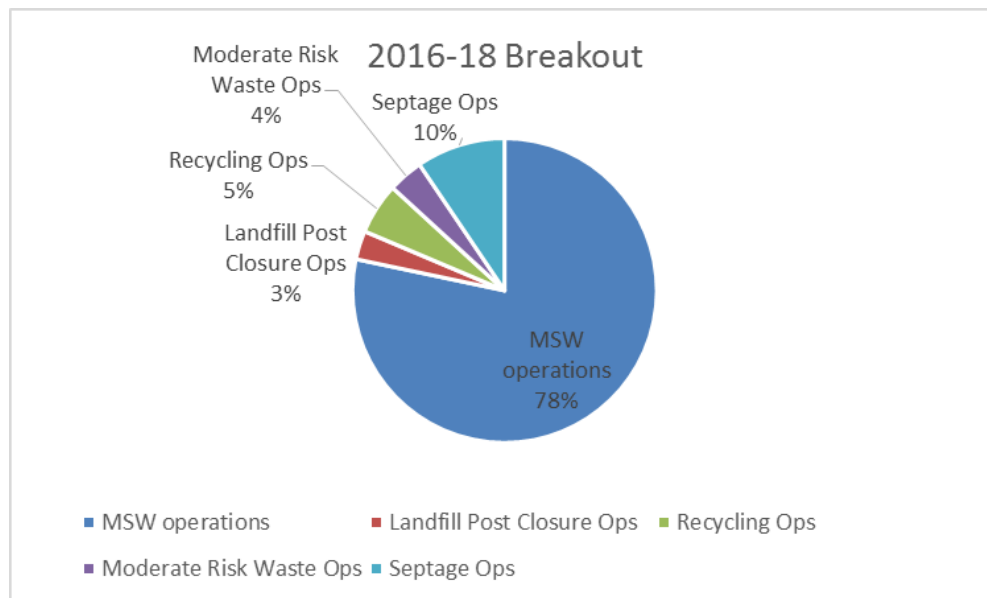
## 3.2 Summary of Allocated Costs

The results of the allocation study are summarized in Figure 3.2.

**Figure 3.2: Summary of Rolled Up Expenses and Allocations**

Computed Cost Allocations for 2016-18 rate period (in thousands)	MSW Op	Landfill Post	Recycling Ops	Moderate Risk	Septage Ops	Total 2016-18	Total SW
O&M - Operations & Maintenance Costs	\$14,191	\$488	\$915	\$565	\$517	\$16,676	\$16,159
TAXES - Taxes & Operating Assessments	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DEBT Service	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DEPRECIATION - Repair & Replacement	\$0	\$0	\$0	\$0	\$0	\$0	\$0
INTERGOVERNMENTAL	\$807	\$22	\$134	\$0	\$78	\$1,041	\$963
CIP	\$310	\$86	\$15	\$164	\$1,256	\$1,830	\$574
TOTAL ALLOCATED COSTS, ALL ITEMS	\$15,308	\$595	\$1,064	\$729	\$1,852	\$19,547	\$17,695
Percentage	78%	3%	5%	4%	9%	0%	0%

**Figure 3.3: Revenue Requirements for Major County Solid Waste and Septage Elements. Total 3 year revenue requirements for 2016-18= \$19.46 million**



### 3.3 Unit Costs

The results of the cost allocation study were used to calculate unit costs for each program component. A summary of the calculated unit costs is presented in Figure 3.4.

**Figure 3.4: Revenue Requirements for Major County Solid Waste and Septage Elements. Total 3 year revenue requirements for 2016-18= \$19.5 million**

Computation of 2016-18 Unit Costs	Total 3 yr rate pd Allocated (thous)	Units - Selected	Number of Units 3-yr(thous)		Calculated Unit cost (\$) - new
MSW operations	\$15,308	MSW Tons	145.0	MSW	\$109.71
Landfill Post Closure Ops	\$595	Added to MSW Unit Cost	0.0	Not Applicable	
Recycling Ops	\$1,064	MSW customers	381.4	RECY	\$2.79
Moderate Risk Waste Ops	\$729	MSW Tons (historically)	145.0	MRW	\$5.03
Septage Ops	\$1,852	Gallons (all; previously Res Only)	11,038.0	SEPT	\$0.17
TOTAL Allocated cost	\$19,547				
Non-Septage total	\$17,695				

The data on the unit costs are an important component of computation of rates and rate structure described in Chapter 4.

## Chapter 4 - Rate Design

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This section identifies the considerations used for rate design and proposes new solid waste rates for the 2016-2018 rate period.

### ***4.1 Rate Design Considerations***

Rates should be fair and equitable and not discriminate against any class of customers. The rate structure should be easy to understand and simple to administer. Rates should be consistent with established policies and plans. In addition, because waste flows can cross jurisdictional lines, there should be some continuity with rates charged in neighboring jurisdictions. Finally, we address issues of incentives.

#### **Ease of Administration**

A simple rate structure with fewer rate categories is easier to administer than a more complex structure with numerous fee categories. Minimizing the number of fee categories and surcharges promotes understanding.

Customers must wait at the scale house to record vehicle weights and pay the disposal fees. Minimizing the number of coins needed for payment also minimizes exit delays.

#### **Consistency with Local Policies and Plans**

The *Island County Solid Waste and Moderate-Risk Waste Management Plan (Sep 2014, Green Solutions)* identifies a number of facility, program, and equipment plans, which have been generally incorporated into the budget.

#### **Ability to Pay**

County policy provides low-income individuals, non-profit charitable organizations and organizations conducting community cleanup programs with discounted disposal fees. Low-income individuals, as designated by a recognized social service agency such as the Opportunity Council and Senior Services Center, are eligible to receive a 50 percent discount for normal household trash such as trash that could be picked up curbside. Disposal fees for organizations conducting community cleanup activities may be waived.

## Continuity with Adjacent Jurisdictions

Local governments in Washington State are assigned primary responsibility for solid waste management. While state regulations are applicable to all jurisdictions, such factors as land use regulations, policies for environmental protection and financing and economies of scale create differences in local rates. If the rate differential is substantial, waste tends to flow across jurisdictional boundaries to the lower-cost service provider. A discussion of comparisons to rates in surrounding jurisdictions is provided later in this chapter.

## Additional Rate Design Considerations

There are several other considerations in designing the rate structure – criteria that in some ways compete, and require balancing in order to provide a well-designed set of rates.

**Matching cost structures to cover revenue requirements:** Forecasting tonnages and service use is just that – a projection, based on assumptions. The rates that are calculated are based on a variety of assumptions, and if those assumptions do not quite come true, then the per-unit costs that form the basis of many of the rates in this rate study, may not cover costs. The least risky strategy is to assure that all costs associated with particular services are embedded (or allocated) fully to those revenue elements. In that way, if quantities vary, they are assigned their full costs and are not subsidizing – and thus jeopardizing -- other parts of the system. However, the unit costs used as the basis for the rates are, in fact, average costs. Recognizing that there are always significant fixed costs to cover in solid waste systems, tonnage or unit shortfalls can mean revenue shortfalls that risk not covering fixed costs for the system. Designing rates that most closely match the structure of costs for specific services helps reduce this risk. This can be realized through minimum fees (that assure fixed costs for recycling, for example) provide additional assurance costs will be covered.

**Providing incentives for preferred customers and behaviors:** The system is set up to provide incentives for certain types of solid waste behaviors. Source separation of yard waste and wood waste is desirable, as it can be processed and addressed without bringing the material to landfills – and it provides a product with value. The material is also generally generated separately from solid waste, and is fairly easy for the generator to keep distinct from other disposal materials. For these reasons, rates for these materials are discounted from the MSW disposal rate to provide an incentive for generators to bring this resource material in separated loads. Construction, Demolition, and Land-clearing debris (CDL), as well as hard-to-handle wastes pay somewhat more than standard MSW. The County realizes somewhat lower costs from some large customers and for communities or actors that either provide their own recycling or do not use the County's recycling. For these reasons, various incentives and discounts are provided to franchise haulers, and septage discounts are provided to Coupeville, Class B, and large institutions. Recognizing that the remaining users must pay for any discounts, the rates for some of these subclasses will be lower than the unit fees, and others will be higher than the calculated unit fees used as the base for the rates.

## 4.2 Proposed Rate Structure

### Solid Waste

#### Analysis and Results for Solid Waste Operations:

The most substantial findings and conclusions related to Island County's solid waste system for the 2016-18 period are summarized below.

- **Tonnages have increased more than trend:** Solid waste tonnages increased more than the previous trend in both 2014 and 2015. These tonnage figures were greater than projected as part of the 2012 rate process, partly because the 2012 rate study used conservative assumptions regarding the possibility of migration of substantial solid waste tonnage to another system, and partly because of the uncertainty of the speed of the economic recovery. Going forward in the 2016-18 rate study, we opt for a moderate growth rate leveraged off the average of the tonnage totals from 2014 and 2015. Using 2015 as the base runs the risk of over-projecting tonnage increases (see Figure 4.1).
- **Rates over-recovered the last few years:** An analysis of the actual revenues compared to budget and compared to expenditures indicates that revenues have tracked about 5-13% over budgeted revenues. This is the culmination of several causes, including unanticipated tonnage increases, and expenditures that increased less than proportionally. The rate for solid waste was \$115 per ton; however, the "effective" revenues per ton recovered for solid waste services was approximately \$126-127 per ton. Beyond these other causes, the existence of a minimum charge for service is likely also a contributor to the over-recovery.
- **Allocation changes have been implemented to better match reality:** Neither MRW<sup>8</sup> nor recycling rates have been set on a cost basis. Recycling charges no fee (but of course, there are expenses), and MRW rates were set prior to the 2007 rate period, and have been inflated parallel to increases of the ratio of allocated MRW budget totals divided by the total number of customers in the system. This calculation does not directly relate to cost recovery. In this rate period, we elected to recognize more explicitly that the solid waste rate is responsible for raising virtually all of the fees used to manage these waste streams – as well as landfill closure, which has traditionally been included in the MSW revenue requirement calculations.<sup>9</sup> As part of this modification, the allocated costs for the total of MSW, recycling, and MRW are all divided by MSW tons to determine the MSW rate going forward. Thus, the allocation has the cost for all these services covered through the MSW fees, which more closely matches actual operations. This simplifies allocations and provides a more transparent and direct computation of the rates needed to recover revenues for solid waste operations.<sup>10</sup>

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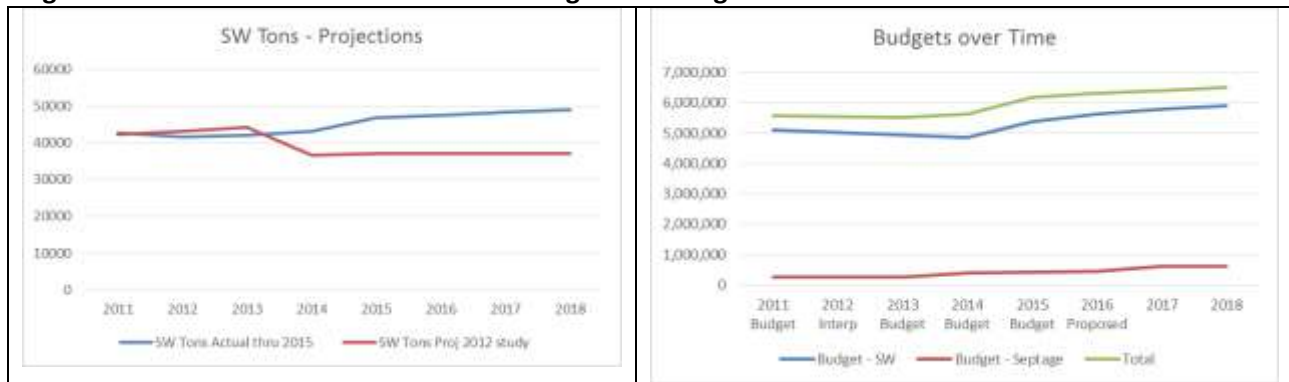
<sup>8</sup> moderate risk rates or hazardous / hard-to-handle materials

<sup>9</sup> Fee-based revenues attributable to recycling and MRW generally average less than \$35K per year.

<sup>10</sup> The small amount of revenue that derives from the MRW will serve as contingency funds.

- Updates to reflect 2016-18 CIP elements and capabilities to have charge customers:** The County plans to add the capability to allow solid waste customers to use charge cards for solid waste service. In the rate study, this is counted as a pass-through, and the posted rates are for cash customers. Charge customers will pay 3% more than the posted rates. The CIP elements for 2016-18 that are embedded in solid waste revenue requirements include capital elements like transfer station turn lanes, site and post-closure upgrades, and other elements. The CIP also includes vehicles like forklifts and yard trailers, among other equipment.

**Figure 4.1: Time series of Solid Waste Tonnages and Budgets**

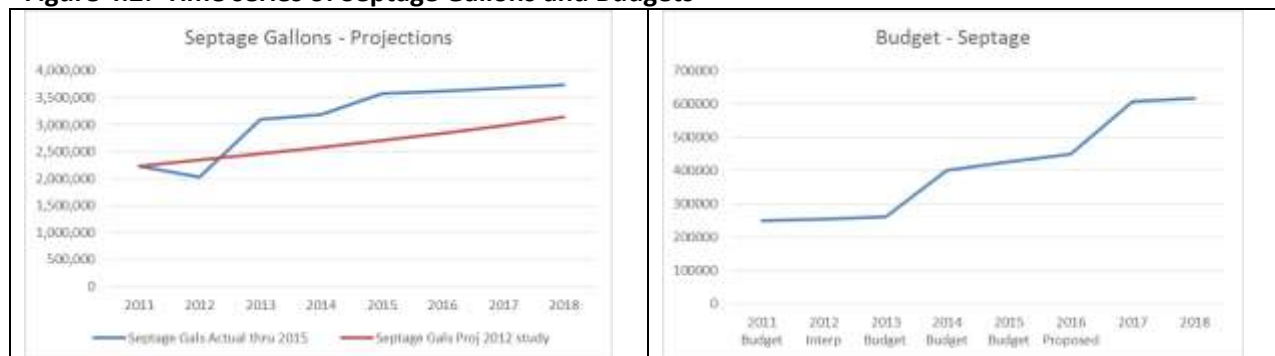


#### Analysis and Results for Septage Operations:

The most substantial changes that have occurred in Island County's solid waste system since the 2012 rate study are summarized below.

- Significant increase in septage gallons:** Septage gallons increased substantially over expectations starting in 2013 – higher by about 20-30% over budget and rate projections. This is largely due to a change in policy at the state level that encouraged compliance with regulations on checking septage systems. This has led to a significant increase in gallon levels, and discussions with the County indicate this trend is expected to continue. Therefore, it was assumed that projections of gallons throughout the 2016-18 period would have modest increases from this higher baseline, established as the average of the gallons from 2014 and 2015. See Figure 4.2.
- Need for a very large capital investment:** The existing facility needs an investment of \$2.7 million for upgrades and additional storage capacity. If incurred all at once, it represents twice the total septage revenues raised during the previous three year rate period. Of course, the traditional manner of funding investments such as this, which traditionally have 20+ year lifetimes, is over time. The structure of this payback is as follows: \$700K drawn from solid waste fund cash balances, and \$2 million borrowed from the County's Roads Division. By law, interfund borrowing can be spread over a maximum of 5 years, which is the assumption used here.

**Figure 4.2: Time series of Septage Gallons and Budgets**



### Rate Computation Results and Options:

The total revenue requirements for 2016-2018 for solid waste are listed below.

- MSW operations: \$15,308 thousand, or 87% of MSW cost allocations
- Landfill post closure operations: \$595 thousand, or 3% of allocated costs in solid waste
- Recycling operations: \$1,064 thousand, or 6% of allocated costs in solid waste
- MRW operations: \$729 thousand, or 4% of allocated solid waste costs.
- Total revenue requirements for solid waste operations: \$17,607 thousand

The total number of solid waste tons expected over the three year rate period are 138,300 tons, yielding a calculated rate per ton needed of \$127.30 to recover needed revenues based on the tons of service provided. Using a basic calculation, and with some variations in assumptions, this represents a 7-11% increase over current posted rates.

However, there are other considerations to take into account in identifying appropriate rates. As mentioned earlier, current actual rate revenues are pulling in an effective rate of \$126-127 per ton for solid waste. Were this to continue, a rate increase of less than 1% would be needed. Assuming an increase in tons projected for each of the coming years, the County may, in fact, be able to defer a rate increase for solid waste through this rate period.

The septage rates are more complicated. The revenue requirements can vary based on several policy alternatives. Note that the estimated gallons over the three year rate period are projected to be 10,091.<sup>11</sup>

- **Option 1 – Short loan payback, large rate increase:** Assuming the \$2 million interfund loan is paid back over 5 years with 0.5% interest rate, and the \$700K is paid back / replenished into the solid waste fund within the 3 year period, revenue requirement for septage are: \$2.132 million. Divided by the estimated gallons, the septage rate would be \$0.2212, or a 43% increase over current rates (\$0.155/gal).

<sup>11</sup> These are “revenue” gallons. The total estimated gallons are 11,038, but while the largest share of the gallons are at higher rates (the residential pumper septage fees), there are additional gallons at discounted rate for Town of Coupeville, Class B, and large institutional rates. The 10,091 gallons represent a weighted average of revenue from the gallons.

- **Option 2 – Longer loan payback, substantial rate increase:** Again, the \$2 million interfund loan is paid back over 5 years, but we also replenish the \$700K expense over 5 years, the revenue requirement over the 3-year rate period is: \$1.852 million. Divided by the estimated gallons, the septage rate would be \$0.1835, or an 18% increase over current rates.

Rate increases of this level may be unpalatable, and may potentially be avoidable under different assumptions.

- **Option 3 – Defer rate increase with 5-year interfund repayment, and delayed solid waste fund replenishment:** Again, the \$2 million interfund loan is paid back over 5 years, but we replenish the \$700K starting after the \$2 million is repaid (the fund has a substantial remaining balance). Under this option, the 3 year revenue requirements for 2016-2018 are: \$1.432 million. Divided by the estimated gallons, the septage rate would be \$0.1419, or no rate increase would be needed.
- **Option 4 – Defer rate increase with bonds:** Consider that the lifetime of the asset (the upgraded septage plant) is more than 20 years. The County could finance the \$2.7 million (or a portion of it) over a much longer period by bonding for the expense. If we assume an interest rate of 3.3% for good quality 20 year bonds, the annual payments for the County's \$2 million investment is \$138 thousand. Making optimistic assumptions (including not replenishing \$700K until after the 3 year rate period), the revenue requirements for Island County's septage 3 year rate period 2016-2018 would be reduced by \$823.4 thousand over the 3 year period, leaving revenue requirements of \$609 thousand. At 15 and 20 years repayment, the septage revenue requirements would be, respectively, \$708K and \$908K.<sup>12</sup> Divided by the estimated gallons, no septage rate increase would be needed. This may or may not be possible, or desirable.
- **Option 5 – Defer septage rate increase by recognizing recovery across entire Solid Waste fund:** One additional option may be considered. Overall, septage fees represent about 10% of the combined solid waste and septage revenue requirements for Island County's solid waste and septage system. Although typically the system has recovered costs from these septage services (solid waste vs. septage), technically, the system must recover rates across all services.
  - If Option 2 is considered, the revenue requirements from septage services are \$1.852 million for the 3 year rate period, respectively. The revenue requirements for solid waste are \$17.6 million for the 3 year period. If we charge current rates (\$0.155) for the 10,091, we recover \$1.564 million. The remainder of revenue requirements in total are then \$17.6 million plus \$288K. Divided by solid waste tons of 138,300 tons, the tonnage rate would be \$129.30, or about 2% higher than the revenues per ton currently being recovered. The requirements would be less under different options (3 or 4).
- **Option 6 – Defer the rate decision and monitor 2016 situation:** Finally, the County can consider Option 6. The County can defer rate changes for a year, and revisit the issue next year, or it can plan multi-part rate increases over two or three years.

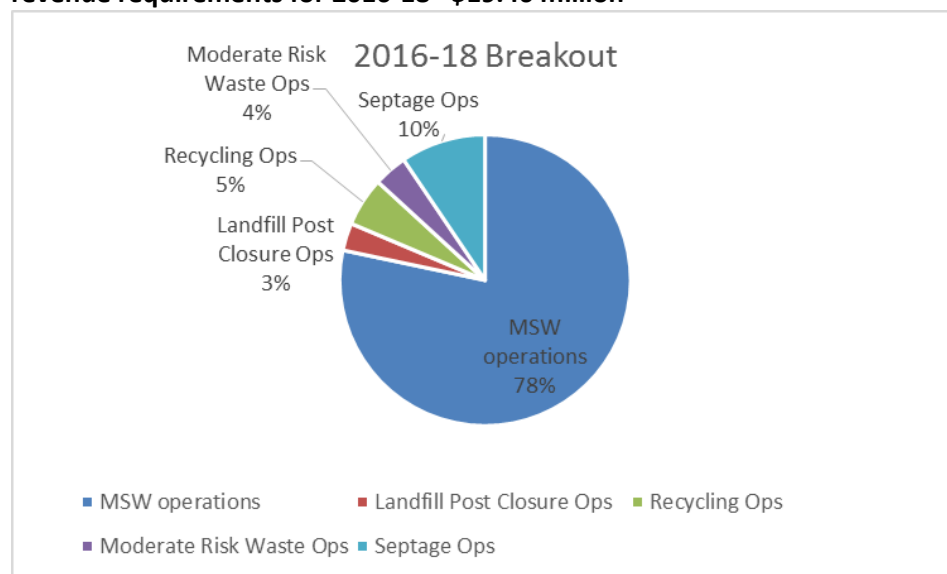
<sup>12</sup> At a 4.3% interest rate, the 3 year rate period savings would be \$785K, 687K, and 487K for 20, 15, and 10 year loans.

Of course, we recommend the County begin setting aside funds for the next replacement of the septage plant as a policy in the next rate period to avoid rate shock in the future and that dedicated funds be pre-accumulated to address future replacements needed in solid waste as well. However, reviewing the CIP, we note that staff have not identified any major upgrade or replacement investments needed through at least 2021.

The remainder of the report presents the various tables and financial figures assuming Option 2. However, the model allows ready modification for the other options.

Figure 4.3 shows the distribution of revenue requirements for the main services offered by the County. Figure 4.4 shows the current rates and the rates under the various options listed above.

**Figure 4.3: Revenue Requirements for Major County Solid Waste and Septage Elements. Total 3 year revenue requirements for 2016-18= \$19.46 million**



### 4.3 Recommended Solid Waste Program Rates

The recommended solid waste program rates reflect the cost of service as well as other rate design considerations including administrative simplicity, consistency with local policies and plans and ability to pay. The computed solid waste and septage rates are compared with current rates in Figure 4.4. Based on the traditional criteria we have applied in Island County, the consultants would recommend Options 2 or 3. However, given the uncertainties because of the recent increase in tonnages and gallons, and the significant investment, taking a “wait and see” option for a year, to watch for over / under-recoveries and the direction of demand tonnages and gallons, could also make sense, to minimize disruption. This would be represented by the rates in Option 6.

**Figure 4.4: Comparison of Existing and Proposed Solid Waste and Septage Fees**

Figure Note: charge customers pay 3% more.

Current and Computed Rates	Current (since 2010)	SW constant, Septage					
		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6, Defer
Solid Waste Rates							
First Can or bundle, \$	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
Add'l cans or bundles, each \$	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50	\$3.50
Minimum total	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00	\$11.00
MSW, \$/ton	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00	\$115.00
Compacted Franchised Rates (preferred)	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00	\$109.00
Base fee per customer	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50
Segregated yard debris, \$/ton	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00	\$80.00
Segregated recyclable material	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
MODERATE RISK / SPECIAL WASTES							
Household hazardous waste	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Used motor oil	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CDL	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00	\$136.00
Hard to handle waste, \$/ton	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00	\$170.00
Appliances, \$/each	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50	\$22.50
Tires, \$/each	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50	\$7.50
Asbestos waste, \$/ton (\$20 min)	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Shredding+MRW if not recyclable (per bag)	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50	\$1.50
SEPTAGE RATES							
Residential (Pumper trucks)	\$0.1550	\$0.2217	\$0.1829	\$0.1550	\$0.1550	\$0.1550	\$0.1550
Town of Coupeville	\$0.0900	\$0.1287	\$0.1062	\$0.0900	\$0.0900	\$0.0900	\$0.0900
Class B (with lab tests)	\$0.0750	\$0.1073	\$0.0885	\$0.0750	\$0.0750	\$0.0750	\$0.0750
Large Institutions / Non-Class B	\$0.1200	\$0.1716	\$0.1416	\$0.1200	\$0.1200	\$0.1200	\$0.1200

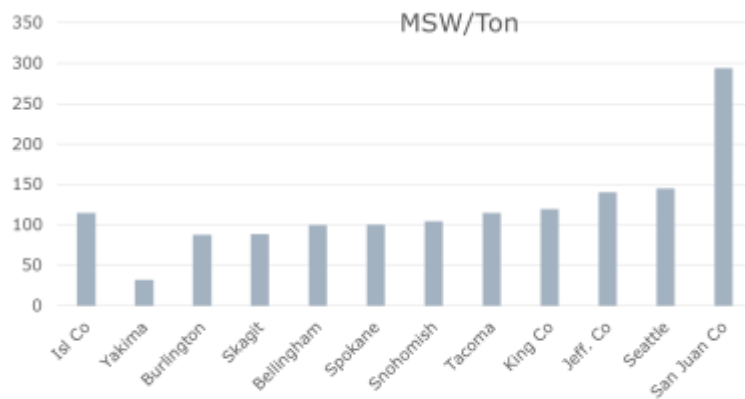
## 4.4 Discussion and Comparisons of Proposed Rates

Comparisons for a key rate – the per-ton MSW rate – are presented in Figure 4.5. The recommended rate for Island County is \$115/ton (\$109/ton for compacted preferred, franchised haulers including Oak Harbor, Waste Connections, and Island Disposal).<sup>13</sup> The graph shows San Juan County shows very high rates associated with MSW, as might be expected given they must ferry wastes to the mainland. However, even off-island, the newly proposed rates fall near the middle of the sample of area MSW tonnage rates. Seattle, Jefferson County and Tacoma have rates over \$100; the lowest rates are in Skagit County, Burlington, and Snohomish County, whose facilities are near railheads.

Septage disposal fees in surrounding jurisdictions are presented in Figure 4.6.

<sup>13</sup> Again, this is lower than the cost-of-service, but is recommended for the reasons discussed above.

**Figure 4.5: Comparison of Proposed Island County MSW Rate with a Sample of Area Jurisdictions \$/ton**



**Figure 4.6: Comparison of Proposed Island County Septage Rate with a Sample of Area Jurisdictions \$/gallon**

